



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/784,777

02/24/2004

Yun-sang Kim

Q75813

8345

23373 7590 06/04/2007
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

DADA, BEEMNET W

ART UNIT

PAPER NUMBER

2135

MAIL DATE

DELIVERY MODE

06/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/784,777

Applicant(s)

KIM ET AL.

Examiner

Beemnet W. Dada

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :2/24/04, 04/07/04, 10/06/05 & 10/17/05.

DETAILED ACTION

1. Claims 1-31 have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 5, 7-22 and 25-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Moriyama et al. US 2002/0041686 a1 (hereinafter Moriyama).
4. As per claims 1, 14, 19 and 27, Moriyama teaches a transmitting apparatus for data copy protection, comprising:
 - a control information setting unit which sets control information for the data copy protection (i.e., recording copy control information, CCI) [page 6, paragraph 0077 and figures 1-3];
 - a data encrypting unit which encrypts data by using different encryption processes (i.e., different encryption systems in which algorithms are different from one another, systems A-E) according to respective control modes corresponding to the set control information (i.e., corresponding copy control information) [paragraphs 0077, 0078, 0080, 0081, 0086 and figures 1-3]; and

a data transmitting unit for transmitting the encrypted data from the data encrypting unit [page 6, paragraph 0077 and figures 1-3].

5. As per claims 2, 21 and 28, Moriyama teaches a receiving apparatus for data copy protection, comprising:

a data receiving unit for receiving encrypted data [figure 1, receiving apparatus 1];

a control information extracting unit which extracts control information for the data copy protection from the received data (i.e., extracting CCI) [paragraph 0102]; and

a data decrypting unit which decrypts the encrypted data by using different decryption processes (i.e., different encryption/decryption systems in which algorithms are different from one another, systems A-E) according to respective control modes corresponding to the extracted control information (i.e., corresponding copy control information) [paragraphs 0078, 0081, 0100-0101 and figure 4].

6. As per claim 7, Moriyama teaches a system for data copy protection, comprising:

a transmitting apparatus which provides control information for the data copy protection, encrypts data by using different encryption processes (i.e., different encryption systems in which algorithms are different from one another, systems A-E) according to respective control modes corresponding to the control information (i.e., corresponding copy control information) [paragraphs 0077, 0078, 0080, 0081, 0086 and

figures 1-3], and transmits the encrypted data [page 6, paragraph 0077 and figures 1-3];
and

a receiving apparatus which receives the transmitted encrypted data, extracts the control information from the received data (i.e., extracting CCI) [paragraph 0102], and decrypts the encrypted data by using different decryption processes (i.e., different encryption/decryption systems in which algorithms are different from one another, systems A-E) according to the respective control modes corresponding to the extracted control information (i.e., corresponding copy control information) [paragraphs 0078, 0081, 0100-0101 and figure 4].

7. As per claim 11, Moriyama teaches a data copy protection method, comprising:

setting control information for data copy protection, encrypting the data by using different encryption processes (i.e., different encryption systems in which algorithms are different from one another, systems A-E) according to respective control modes corresponding to the set control information (i.e., corresponding copy control information) [paragraphs 0077, 0078, 0080, 0081, 0086], and transmitting the encrypted data [page 6, paragraph 0077 and figures 1-3];

receiving the transmitted encrypted data and extracting the control information from the received data (i.e., extracting CCI) [paragraph 0102]; and

decrypting the encrypted data by using different decryption processes according to the respective control modes corresponding to the extracted control information (i.e.,

Art Unit: 2135

corresponding copy control information) [paragraphs 0078, 0081, 0100-0101 and figure 4].

8. As per claims 25 and 29, Moriyama teaches a system for data copy protection, comprising:

an encrypting unit which encrypts data by using different encryption processes (i.e., different encryption systems in which algorithms are different from one another, systems A-E) according to respective control modes corresponding to set control information for the data copy protection (i.e., corresponding copy control information) [paragraphs 0077, 0078, 0080, 0081, 0086]; and

a decrypting unit which decrypts the data by using different decryption processes (i.e., different encryption/decryption systems in which algorithms are different from one another, systems A-E) according to the respective control modes corresponding to the set control information for the data copy protection (i.e., corresponding copy control information) [paragraphs 0078, 0081, 0100-0101 and figure 4].

9. As per claim 30, Moriyama teaches an information storage medium comprising:

data [paragraphs 0078 & 0081]; and

control information for data copy protection (i.e., copy control information) , wherein the data is encrypted/decrypted using different encryption/decryption

processes according to respective control modes corresponding to the control information (i.e., different encryption/decryption systems in which algorithms are different from one another, systems A-E) [paragraphs 0078, 0081, 0100-0101 and figure 4].

10. As per claims 4, 8, 12, 15 and 17, Moriyama further teaches the apparatus, wherein the control information comprises copy control information (CCI) [paragraph 0077].

11. As per claims 5, 9, 13, 16 and 18, Moriyama further teaches the apparatus, wherein the control modes comprise a first mode in which copying is not permitted, a second mode in which copying is permitted once and thereafter additional copying is not permitted, and a third mode in which copying is permitted but the data is encrypted (i.e., Copy once, Never Copy and Copy Free) [paragraph 0079].

12. As per claims 20 and 22, Moriyama further teaches the apparatus, wherein the data encrypting unit comprises encryption modules corresponding to the control modes (see figure 3, copy control information and corresponding scramble system and paragraphs 0078, 0081, 0100-0101).

Art Unit: 2135

13. As per claims 26 and 31, Moriyama further teaches the system, wherein the respective control modes are established from the data so as to prevent unauthorized copying of the data through modification of the set control information [paragraph 0079].

14. As per claim 10, Moriyama further teaches the system wherein the receiving apparatus further comprises a medium-reproducing device for providing AV stream information to a user (i.e., digital stream corresponding to contents) [paragraph 0080].

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al. US 2002/0041686 a1 (hereinafter Moriyama) in view of Kato et al. US 6,618,549 B1 (hereinafter Kato).

17. As per claim 24, Moriyama teaches a decrypting apparatus for data copy protection, comprising:

a code checking unit which checks copy control information (CCI) code of received data (i.e., extracting CCI) [paragraph 0102]; and

a decryption module which inserts a same code as the CCI code for use in decrypting the data, in response to the CCI code being one of predetermined codes for controlling copying of the data (i.e., updating & inserting corresponding CCI code) [paragraphs 0102-0104]. Kato is silent on inserting CCI code into one of a most significant bit (MSB) and a least significant bit (LSB) of a key code. However, within the same field of endeavor, Kato teaches inserting CCI code into one of a most significant bit (MSB) and a least significant bit (LSB) of a key code (see figure, 3, CPI header, the least significant bits indicate CCI-EMI codes) [figure 3 and column 6, lines 36-50]. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of Moriyama within the system of Kato in order to provide efficient access to CCI data and further enhance security of the system.

18. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al. US 2002/0041686 a1 (hereinafter Moriyama) in view of Kataoka et al. US 6,243,469 B1 (hereinafter Kataoka).

19. As per claim 3, Moriyama teaches the apparatus as claimed in claim 2 above. Moriyama is silent on the apparatus, wherein the encrypted data comprises hierarchically encrypted data. However, it is old and well known to encrypt

Art Unit: 2135

hierarchically. For example, Kataoka teaches encrypted data that is encrypted hierarchically [column 8, lines 21-28]. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of Kataoka within the system of Moriyama in order to enhance the security of the system.

20. As per claim 6, Moriyama further teaches the system wherein the receiving apparatus further comprises a medium-reproducing device for providing AV stream information to a user (i.e., digital stream corresponding to contents) [paragraph 0080].

21. Claims 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al. US 2002/0041686 a1 (hereinafter Moriyama) in view of Schneier, Bruce (Applied Cryptography, 2nd edition, 1996).

22. As per claim 23, Moriyama teaches the system as indicated in claim 22 above. Moriyama is silent on including DES decryption module, Double-DES decryption module and Triple-Des decryption module. However, the use of DES, Double DES and Triple DES is old and well known in the art. For example, Schneier teaches an encryption method including DES decryption module, Double-DES decryption module and Triple-Des decryption module [pages 294-295]. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the

Art Unit: 2135

teachings of Schneier within the system of Moriyama in order to enhance the security of the system.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beemnet W. Dada whose telephone number is (571) 272-3847. The examiner can normally be reached on Monday - Friday (9:00 am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Beemnet W Dada

April 12, 2007


KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100